

# School Zone Speed Camera Report to the County Council



**Howard County Police Department**

William J. McMahon, Chief of Police

March 2013

## Executive Summary

The Howard County Police Department has been authorized to operate a speed camera program in school zones since enabling legislation was passed in Howard County in May, 2011. Our program was designed to provide police with another tool to address residents' number-one complaint: speeding on residential and school zone roadways. You will find in this report that our program has done just that by providing additional support to our traditional speed enforcement efforts.



After selecting a vendor, hiring staff, and leasing two vans with equipment, the program kicked-off with a month-long warning period in October, 2011 and began issuing civil citations 30 days later. From that time through the end of 2012, the program issued more than 25,000 citations to owners of vehicles found to have been traveling 12 miles per hour (MPH) or more over the posted speed limit.

Our research shows that the speed camera program has resulted in ***reductions in travel speeds on 65 percent of our school zone roadways***. It has also reduced the number of collisions occurring on those roadways.

Speed camera programs in some jurisdictions outside Howard County have recently been scrutinized and in some cases, modified, or even temporarily shut down. I can personally assure you that the problems faced in other programs do NOT exist in Howard County, as our program uses different technology and processing methods. We will delve into this in more detail later in the report.

The following report is an analysis that addresses all the reporting requirements of the county code. I am confident that you will agree that the speed camera program in Howard County is effective, efficient, fair, and a true benefit to the safety of those who travel in our school zones.

A handwritten signature in blue ink that reads 'William J. McMahon'.

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The following is an overview of the legislation involving school zone speed camera enforcement. This report is broken down into the major reporting areas as required in Howard County Code *Title 21 Traffic Control & Transportation Subtitle 6 Speed Camera Monitoring Systems*.

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## Program Overview:

Speed camera legislation was introduced before the Howard County Council in the spring of 2011. The legislation authorized the Department of Police to use speed monitoring systems in school zones. The overall goal of the speed camera program was to change behavior and encourage drivers to slow down.

In May 2011, the County Council passed Council Bill 13-2011, authorizing the use of speed cameras in Howard County. A 30-day warning period began on October 15, 2011 and the program began issuing civil citations on November 16, 2011.

The Howard County program utilizes two manned, mobile systems, which do not require roadway improvements or roadway construction, resulting in no inconvenience to the public. Only employees of the police department who are certified to operate the camera system and equipment are permitted to staff the vans.

School zone speed enforcement takes place Monday through Friday from 6 a.m.-8 p.m. During the school system's winter and spring breaks, we operate one van and concentrate our enforcement activities in school zones where activities are taking place. During the summer break, we concentrate our efforts at schools that host summer school and recreational programs.

Every designated school zone is posted with advanced warning notification consisting of a "School Zone" sign, a sign displaying the speed limit, and a "Photo Enforcement" sign. In addition, a list of all roadways where the speed camera vans will be assigned are listed on the HCPD web site at least a week in advance.



Our program was designed as an additional tool to supplement the efforts of patrol officers to slow down speeding drivers. Our efforts over more than 13 months have resulted in 275 days of enforcement, totaling 5,840 hours and the issuance of 25,836 civil citations. During the same time period, our patrol officers, who are tasked with a multitude of responsibilities, such as responding to emergency calls, writing reports, and handling investigations, spent 3,428 hours conducting speed enforcement and issued 2,187 speed citations in school zones and residential areas. You can see that the automated speed camera program allows us to focus on speeding in school zones in a way we simply otherwise could not.

These enforcement efforts have already resulted in a lowering of the 85<sup>th</sup> percentile speed\* by as much as 11 MPH on 64.8 percent of the school zone roadways, in just the first year of the program.

*\*The 85<sup>th</sup> percentile represents the speed at or below which 85 percent of people drive at any given location under good weather and visibility conditions. This is the national standard by which travel speeds are gauged by traffic engineers.*

## Section 1. Enforcement Activity to Include Locations/Frequency of Placement

A brief synopsis of each school zone enforcement roadway is provided below. Roads receiving speed camera enforcement are based on the locations with the most significant speeding problems, as determined by surveys taken of each roadway. Residents may request additional attention be given to roads where they observe speeding problems at any time.

Not all areas around schools receive automated speed enforcement, as the configurations of some school zone roadways do not allow safe deployment of the speed camera van.

| School                                    | Location                      | Hours  | Citations |
|---|-------------------------------|--------|-----------|
| Atholton Elem.                            | 6600 Blk. Seneca Drive        | 67.37  | 143       |
|   | 10100 Blk. Donleigh Drive     | 28.07  | 13        |
| Atholton High                             | Freetown Road                 | 152.90 | 424       |
| Bellows Springs Elem.                     | Old Stockbridge Road          | 15.03  | 6         |
| Bollman Bridge Elem./<br>Bethel Christian | Vollmerhausen Road            | 140.91 | 1173      |
| Bonnie Branch/Ilchester ES/OLPH           | Ilchester Road                | 211.02 | 1154      |
| Bryant Woods Elem.                        | Green Mountain Circle         | 4.07   | 0         |
| Bushy Park Elem.                          | 14000 Blk. Carrs Mill Road    | 60.58  | 157       |
| Centennial HS/ES, Burleigh M. MS          | Centennial Lane               | 463.68 | 4378      |
| Chaplegate Academy                        | 2700 Blk. Marriottsville Road | 127.61 | 229       |
| Clarksville ES/River Hill HS              | 12100 Blk. MD Rt. 108         | 34.56  | 9         |
| Clarksville Middle                        | 6700 Blk. Guilford Road       | 8.253  | 1         |
| Clemmons Crossing Elem.                   | Quarterstaff Road             | 20.84  | 7         |
| Columbia Academy                          | Old Columbia Road             | 164.15 | 600       |
| Cradlerock ES, Lake Elkhorn MS            | Cradlerock Way                | 71.01  | 88        |

|   |                                |        |      |
|---|--------------------------------|--------|------|
| Dayton Oaks Elem.                         | 4600 Blk. Ten Oaks Road        | 102.46 | 181  |
| Deep Run Elem.                            | Old Waterloo Road              | 131.24 | 135  |
| Elkridge ES/Elkridge Landing MS           | 7000 Blk. Montgomery Road      | 121.25 | 126  |
| Ellicott Mills Middle                     | 4400 Blk. Montgomery Road      | 102.64 | 55   |
| Folly Quarter MS/<br>Triadelphia Ridge ES | 13500 Blk. Triadelphia Road    | 224.69 | 1302 |
| Forest Ridge Elem.                        | 9500 Blk. Gorman Road          | 155.92 | 360  |
| Fulton ES/Lime Kiln MS/<br>Reservoir HS   | MD Rt. 216 @ School Complex    | 47.36  | 14   |
| Glenelg County School                     | 12700 Blk. Folly Quarter Road  | 20.12  | 7    |
| Glenelg High                              | Burntwoods Road                | 171.44 | 740  |
|   | Sharp Road                     | 73.44  | 174  |
| Glenwood Middle                           | 2600 Blk. MD Rt. 97            | 72.06  | 54   |
| Gorman Crossing ES/<br>Murray Hill MS     | Skylark Blvd @ Winter Sun Road | 20.05  | 8    |
| Guilford Elementary                       | 7300 Blk. Oakland Mills Road   | 57.51  | 57   |
| Clarksville MS/Pointers Run ES            | Great Star Drive               | 99.65  | 159  |
| Hammond Elem/Middle                       | 10500 Blk. Grae Loch Drive     | 2.782  | 0    |
|   | 8000 Blk. Aladdin Drive        | 3.47   | 1    |
| Hammond High                              | 8600 Blk. Guilford Road        | 36.54  | 9    |
| Hollifield Station ES                     | Rogers Ave                     | 250.9  | 2937 |
| Jeffers Hill Elem.                        | 6000 Blk. Tamar Drive          | 165.9  | 671  |
|   | 6000 Blk. Majors Lane          | 4.781  | 0    |
| Laurel Woods Elem.                        | N. Laurel Road                 | 43.2   | 83   |
| Lisbon Elem.                              | 15900 Blk. Frederick Road      | 115.83 | 204  |
| Long Reach High School                    | 6100 Blk. Old Dobbin Road      | 35.29  | 40   |
|   | Tamar Drive @Old Dobbin Road   | 287.47 | 3655 |
| Manor Woods Elem.                         | 11600 Blk. Frederick Road      | 184.02 | 555  |

|                              |                                  |        |      |
|------------------------------|----------------------------------|--------|------|
| Mayfield Woods Middle        | Mayfield Ave                     | 26.81  | 18   |
| Oakland Mills MS/HS          | 9500 Blk. Kilimanjaro Road       | 227.78 | 819  |
|                              | 5600 Blk. Thunderhill Road       | 1.08   | 0    |
|                              | 9600 Blk. Santiago Road          | 3.820  | 0    |
| Phelps Luck Elem.            | 5300 Blk. High Tor Hill          | 55.01  | 71   |
| Phillips School              | Whiskey Bottom Road              | 176.45 | 1182 |
| Rockburn Elem.               | 6000 Blk. Montgomery Road        | 33.10  | 44   |
| St. Augustine School         | Old Washington Road              | 98.52  | 324  |
| St. Johns Lane Elem.         | 3000 Blk. St Johns Lane          | 142.50 | 260  |
| St. Johns' Parish Day School | 9200 Blk. Frederick Road         | 17.18  | 3    |
| St. Louis School             | 6300 Blk. Ten Oaks Road          | 90.24  | 180  |
| Resurrection- St. Paul       | 3300 Blk. North Chatham Road     | 36.77  | 43   |
| Stevens Forest Elem.         | Stevens Forest Road              | 158.40 | 243  |
| Swansfield Elem.             | 5700 Blk. Cedar Lane             | 129.68 | 299  |
| Talbott Springs Elem.        | Whiteacre Road                   | 30.45  | 22   |
| Thunderhill Elem.            | 9300 Blk. Mellonbrook Road       | 12.30  | 1    |
| MD School for the Deaf       | 8100 Blk. Old Montgomery Road    | 191.50 | 1628 |
| West Friendship Elem.        | 12500 Blk. Frederick Road        | 212.47 | 512  |
| Worthington Elem.            | 4600 Blk. Doncaster Drive        | 13.91  | 19   |
| Hollifield Elem.             | 8600 Blk. Stonehouse Drive       | 2.873  | 0    |
| Waverly Elem.                | Old Frederick Road @Maplewood Dr | 45.63  | 24   |



The five locations where the fastest speed violations occurred are listed below:

- Seneca Drive, Atholton Elementary School: 55 MPH in a 25 MPH zone
- Vollmerhausen Road, Bethel Christian Academy: 60 MPH in a 30 MPH zone
- Centennial Lane, Centennial High School: 74 MPH in a 35 MPH zone
- Rogers Avenue, Hollifield Elementary School: 78 MPH in a 35 MPH zone
- Frederick Road, Manor Woods Elementary School: 82 MPH in a 40 MPH zone

Citations were issued in all five of these instances and they have all been paid.

## **Section 2. Citation Information to Include Violations Photographed, Rejected, Issued**

Of the 27,908 possible violations recorded by our detection equipment, 25,836 citations were mailed. The difference in the number of possible violations recorded and the number of those violations mailed is due to our multi-level review and rejection of citations based upon our strict quality control measures. That process is discussed further in Section 7.

Many of the citations are rejected during our “Post Print Review and Rejection” process. During that process, a police employee reviews each citation to ensure that it meets our strict criteria for mailing, even if the electronic image appears acceptable.

During the process, we rejected 705 printed citations for the following reasons:

- unclear registration plate;
- lack of a fixed object in the photo;
- photos were too dark;
- photos were generally unclear; or
- registration plate was obstructed.

Even though these 705 violations were acceptable when viewed on the computer due to the ability to enlarge the photographs, we rejected them upon reviewing the final paper product. This is done to enhance public confidence in the program.

Emergency vehicle operators were also issued citations if they were detected to be exceeding the threshold speed and were not on emergency calls. In total, 154 emergency vehicles (fire and police, including those from out-of-county) were detected speeding. Of those, 81 were on emergency calls; the remaining 73 cases resulted in citations being issued. Payment was made by the responsible party, unless it could be demonstrated that they were, in fact, on an emergency call. Fifteen of the 73 violations were rejected in a similar fashion to what was listed in the previous paragraph, i.e. dark photos, unclear photos, etc.

Seventeen non-emergency Howard County government vehicles were detected exceeding the speed limit resulting in 15 citations being issued. Two citations were not issued due to poor photographic quality, but the remaining fines were paid by the individual driver from personal funds.

School buses, which are owned by contractors, received 23 speed camera citations during this reporting period. Those citations have been paid.

Of all vehicle owners who received citations in 2012, 39 chose to appear in court:

#### **Citations Adjudicated in Court - 2012**

| <b><i>Month</i></b> | <b><i>Cases Adjudicated<br/>in Court</i></b> | <b><i>Guilty</i></b> | <b><i>Not Guilty</i></b> |
|---------------------|--|----------------------|--------------------------|
| <i>January</i>      | 2  | 2                    |                          |
| <i>February</i>     | 3  | 2                    | 1                        |
| <i>March</i>        | 3  | 2                    | 1                        |
| <i>April</i>        | 3  | 3                    |                          |
| <i>May</i>          | 0  | 0                    |                          |
| <i>June</i>         | 7  | 6                    | 1                        |
| <i>July</i>         | 4  | 4                    |                          |
| <i>August</i>       | 5  | 5                    |                          |
| <i>September</i>    | 7  | 7                    |                          |
| <i>October</i>      | 1  | 1                    |                          |
| <i>November</i>     | 1  | 1                    |                          |
| <i>December</i>     | 3  | 3                    |                          |
|                     |  |                      |                          |
| <b>2012 Totals</b>  | <b>39</b>                                    | <b>36</b>            | <b>3*</b>                |

*\*Judges have used some judicial discretion in hearing these cases and have made three findings of "not guilty" of the total 25,836 citations issued. None of these findings involved questions or concerns about the validity of the equipment or the program.*

### **Section 3. Collision Information / Comparison**

During our initial study and consideration of speed cameras, we conducted a 5-year review of collisions in school zones. We found that overall, we averaged 166 collisions per year, including 21 personal injury and 145 property damage. Our recent review of school zone collisions that occurred in 2012 shows a total of 136 collisions, an 18 percent reduction. Of those, 10 were personal injury and 126 were property damage.

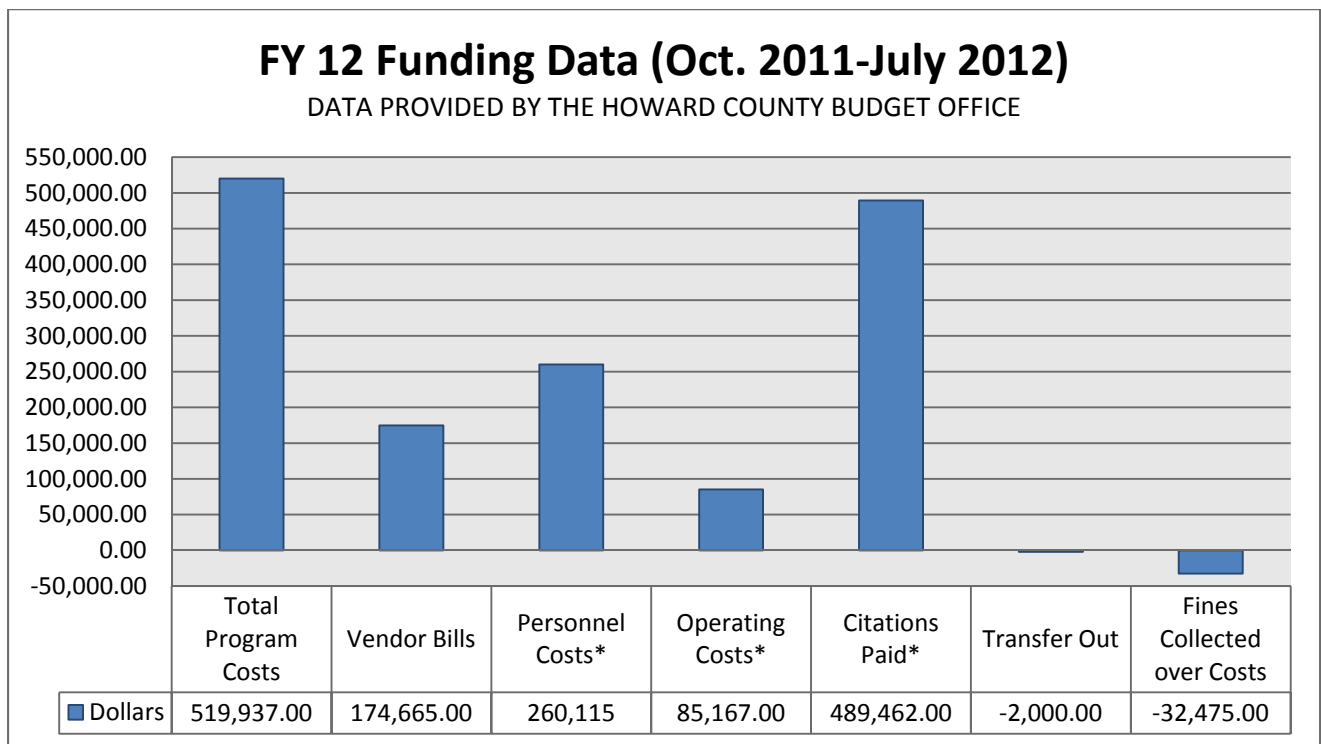
### **Section 4. Updated Speed Surveys**

Every school zone in Howard County was surveyed for speed, both before the speed camera program was launched, with research beginning in 2009, and again during the current school year. Of those 131 locations surveyed, 64.8 percent show a reduction in speed by up to 11 MPH.

Both the pre- and post-enforcement surveys were conducted in school zones for a 48-hour period when school was in session for both days.

## Section 5. Financial Information to Include Program Costs

**Fiscal Year 2012:** During FY12, from the launch in October 2011 until July 2012, the speed camera program cost a total of \$519,937 to operate. Those costs included \$174,655 to the vendor, \$260,115 in personnel costs, \$85,167 in one-time start-up costs and general operating costs. The program received \$489,462 in fines collected from citations paid during that time period, resulting in a deficit of -\$32,475. Note that while we paid the vendor from the beginning of the program, fines were not collected in the first 30 days, during the “warning period.” In addition, fines for some citations issued in FY2012 were not paid until FY2013.

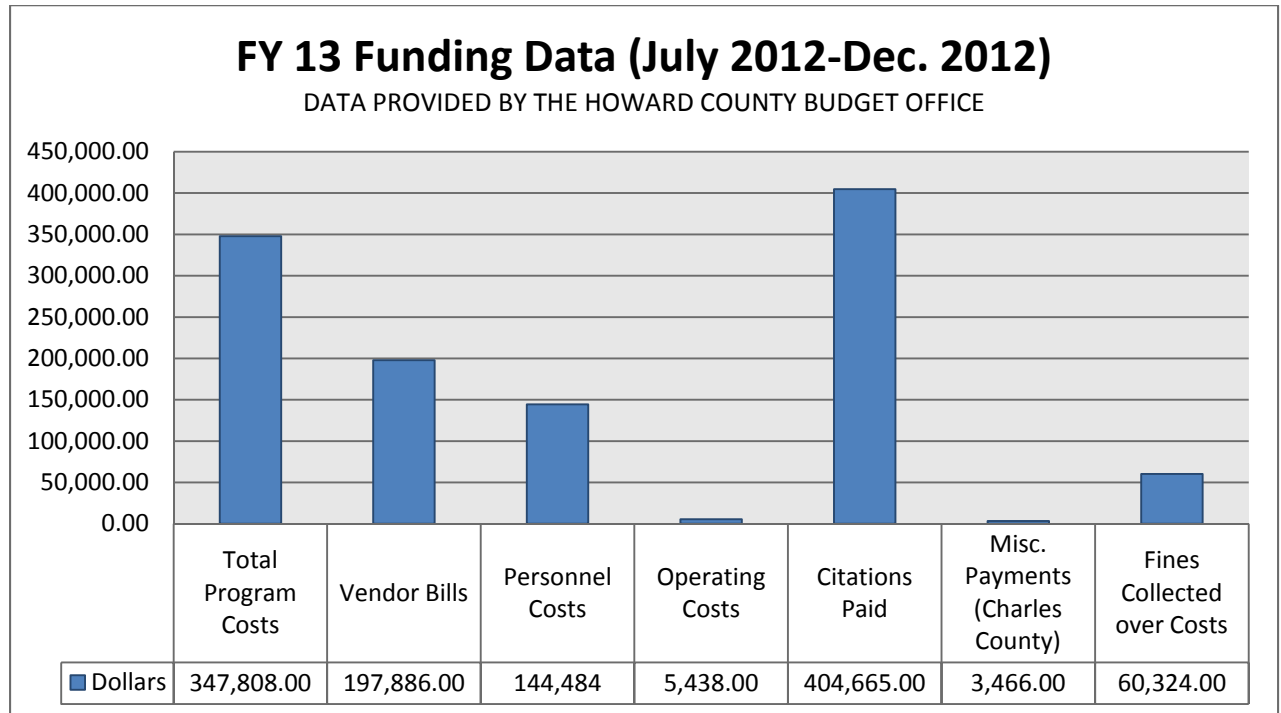


**\* Personnel Costs:** While most data in the graph show dollar figures from the beginning of the program in October 2011, the “Personnel Costs” date back three additional months to July 2011, as staff needed to be hired to get the program running and launched.

**\*Operating Costs:** This FY12 figure includes one-time start-up costs, such as furniture, computers, equipment, etc.

**\*Citations Paid:** While we began paying vendor bills in October when the program launched, we did not begin collecting citation payments for the first 30 days, due to the warning period.

**Fiscal Year 2013, through Dec.:** As of December 31, 2012 (FY13) the program has cost \$347,808 to operate. These costs included \$197,886 to the vendor, \$144,484 in personnel costs and \$5,438 in other operating costs. The program has received \$404,665 in citation payments and \$3,466 in partner (Charles County) payments, resulting in \$60,324 in fines collected over program costs.



At the end of FY13, all fines collected over program costs will remain in a fund to be used for Traffic Safety Projects and Enhancements.

## Section 6 List of School Zones and Any Changes

In August 2011, the Department of Public Works and the Department of Police held a public meeting where residents were invited to make comments on the school zones and the speed limits in those zones. Public comment was also accepted through a web link. There were no substantial changes made to the school zones as a result of that meeting or the public comments.

The Traffic Engineering Division of the Howard County Department of Public Works' Bureau of Highways has since reported the following changes to school zones:

1. Forest Ridge Elementary School – In March 2012, the western limit of the school zone on Gorman Road was lengthened by 560 feet. At the beginning of the 2011-2012 school year, the elementary students from the "Haddon Hall at Emerson"

community, located on the southwest corner of the intersection of Gorman Rd./Stephens Rd./Stone Lake Dr. became walkers instead of transported students by the Howard County Public School System Transportation Office. The school zone was increased to include those signalized intersections where elementary students walk across Gorman Rd. and Stone Lake Dr. with the assistance of a school crossing guard.

2. Laurel Woods Elementary School – In April 2012, a southern school zone on North Laurel Rd. was created providing a 1,760 foot-long area between Baltimore Ave. and Howard Ave. in response to public meetings with the North Laurel Park community. Prior to this, the school zone existed only on the western section of North Laurel Rd. coming from All Saints Rd. and did not continue to the east. The school zone was created to serve elementary students who walk on the sidewalk along this eastern section of North Laurel Rd. to the school.

## Section 7 Major Problems or Irregularities

The program has not encountered any major problems to date, but as with any new program, several issues developed during the year that were not anticipated.

Reduced violations: One unexpected finding was that the numbers of violations were lower once the actual speed vans were deployed, compared to the numbers of violations we saw during the early speed surveys. We expect that this occurred because the vans are a visible and obvious deterrent to all who drive by. During our testing phase, we had not yet invested in the vans and instead used small, handheld-sized equipment to do the initial speed assessments. The simple presence of the vans in the school zones makes drivers slow down. We also believe our public marketing efforts, including our advance publication of enforcement roadways each week, serves as a deterrent and helps reduce speeds.

Public opposition: Another issue was that our vans and van operators were victims of some minor public opposition to the speed camera program. Usually the opposition was expressed by drivers yelling obscenities at the operators and, in some cases, throwing water bottles at the van. However in June 2012, this escalated into more substantial objects being thrown. On June 14, an unknown object was thrown at a van, breaking the rear window. On June 28, a driver fired a marble from a sling shot striking a van. In that incident, the suspect was apprehended, charged and eventually found guilty. Since this case has gone to trial, and the conviction has been publicized, these types of incidents have fallen off.

Media coverage of speed camera problems outside of Howard County: Over the last several months, the media have been reporting on the various speed camera programs being operated throughout the state, particularly in Baltimore City. In some instances, Howard County has been incorrectly included in the negative reporting.

The main issues reported addressed the following concerns: 1- the accuracy of the city's radar-based system; 2- a time stamp/verification process; and 3- the vendor payment/fee structure. The information provided below is designed to explain our process and to show how it is completely different from those where problems have arisen.

#### 1- Laser vs. Radar Systems:

While there are many differences between Howard County's program and others, there is one fundamental distinction from other programs that is extremely significant.

Simply put: Howard County uses laser technology; others have used radar.

To use Baltimore City's program as the example, although we both were using the same vendor, Xerox, the technologies they provided us shared few similarities. This difference affects a number of recently raised issues, including invalid Baltimore City citations due to radar reflection/refraction problems, which are not an issue with laser technology.

Many of the incorrect citations in the city (such as the reported case of the citation sent to a driver whose car was stopped) are specifically linked to radar technology.

An audit has shown the city problems were caused by "radar effects," such as "reflection, refraction and absorption," which show up in "the presence of high profile vehicles" like big trucks. *Since we use laser, not radar technology, this is not an issue in Howard County.*

#### 2-Time Stamp/Verification:

Howard County's two speed cameras have been producing citations in full compliance with the current law, with Xerox's standard *laser* time stamp -- hour, minute, second. Because the vendor's standard laser time stamp complied with the written law, and has been approved in the courts, the issue of including the fraction of a second was simply never an issue that came up among the police program managers, or was raised by a judge or legislator, until recently.

Baltimore's radar program did provide time stamps to the fraction of a second as a standard part of the *radar* software. The laser software, which is a more reliable technology and is used by Howard County, Baltimore County and the State Highway Administration, currently does not allow for the fraction of a second to be displayed.

In an effort to maintain public confidence in the program, we are working with the vendor on the feasibility of changing the laser software to allow the time stamp to be displayed to the thousandths. The vendor has advised that even with the fraction included, it will not be possible for motorists to do their own accurate calculations due

to a number of factors, such as the angle that the camera is set back from the road. Additionally, the distance between the two photographs is not the same as the zone in which the laser equipment measures speed. Nonetheless, we are pursuing the revision to ensure legislators and the public that their confidence in our program is a top priority.

### 3-Vendor Payment Structure:

In Howard County, the police department operates the program and the vendor has a very limited role. The vendor, Xerox, has absolutely no control over the number of images captured, the number of violations sent or the amount of money collected. It also has no input on the days, times or locations selected for enforcement. Those decisions are made by the police department.

The law states, "If a contractor operates a speed monitoring program on behalf of a local jurisdiction, the contractor's fee may not be contingent on the number of citations issued or paid." This is clearly intended to ensure a vendor who controls a system cannot manipulate it to their benefit. In Howard County, the vendor DOES NOT operate the program on our behalf—the police department operates the program. This is not a technicality or word play about who "operates" the system, it is a clear and simple fact.

The vendor is paid a flat fee for rental of equipment, plus \$9.65 per citation for the first 5,000, \$8.88 for the second 5,000, and so on, down to \$5.95 per citation. With the tiered system, the more citations issued, the less money is made by the vendor over time.

Private companies have no role whatsoever in determining how many citations are issued or how much revenue is collected.

There are six distinct steps between a violation being captured by a camera, and a citation being mailed. In Howard County, the vendor plays a role in only two of those steps - and that role is back-office processing. There is just no way for Xerox to control their profits or income.

Here's how the Howard system works:

**STEP ONE:** One of our two mobile vans, with equipment leased at a monthly rate from Xerox, is dispatched to a school location to identify speeding vehicles. Because the units are mobile, there are technicians that operate each van. Those technicians are Howard County police employees. The laser camera is checked hourly for accuracy. The technicians capture data, and then return to a county office to download that data. The Howard County Program Administrator selects the enforcement locations, not the vendor.



STEP TWO: The downloaded data is sent to the vendor, which formats it and returns it to the county in a form that allows our employees to verify whether the data and image meet our criteria for determining if a violation occurred. This is the first step where the vendor touches the data. But note that Xerox is compensated at this stage based on the amount of data that Howard County employees send to them. They have no control over the number they receive, or the locations where the violations come from, and thus cannot control their income. The per-citation fee actually goes down when the number processed goes up. If Howard County sends 100 violations, Xerox is paid to process 100.

STEP THREE: The formatted data is reviewed by a Howard County police civilian employee, different from the technicians in the van, to insure that violations occurred.

STEP FOUR: Those alleged violations are then approved by a sworn Howard County police supervisor.

STEP FIVE: The vendor is then told to hit the "print" button on violations approved by the supervisor. This is the second step where Xerox is involved.

STEP SIX: Howard County police then verify that the printed image is of sufficient clarity to justify a violation notice. Only then is it mailed to the vehicle owner.

Again, of those six steps, just two involve the vendor. In every sense, the Howard County Police Department operates the program, not Xerox. There is no contingency arrangement whatsoever.

If a vehicle owner has a question or concern; they speak with a Howard County employee, not the vendor. Overall, between 7 and 8 percent of captured incidents are weeded out in steps two, three, four and six. And steps three, four and six involve Howard County personnel weeding out potential violations.

## Section 8 Program Recommendations

The Howard County speed camera program has been successful in significantly reducing speeds in school zones and reducing collisions in just the first year.

Our program was designed as an additional tool to supplement the efforts of patrol officers in furtherance of one of our departmental goals: *Save Lives, Prevent Collisions and Facilitate the Efficient Movement of Vehicular and Pedestrian Traffic*. The continuation of this program is essential in working toward that goal.

However, the use of this enforcement tool is limited by the size of the enforcement platform -- our two vans. While we use a small-footprint vehicle, there are several areas where even that small vehicle is too large.

The Howard County code authorizes the use of eight systems and we are exploring increasing our system strength by adding two portable computer units, or PCUs. The battery-powered PCUs would be used in those areas where parking our van has shown to be problematic, or in areas where we are unable to conduct automated enforcement because there is no area to park the van.

PCUs would be installed in cabinets that are bolted to a concrete pad. The only infrastructure required is the permanent pad. The box housing the detection instrument and the bolts are removed once the enforcement has taken place. The PCUs would rotate among the preset concrete platforms.

We believe the current Howard County program can serve as a model for other jurisdictions.